

Rev.A May.-2024

PDFN5×6 N

N-Channel MOSFET in a PDFN5×6 Plastic Package.

$V_{DS} (V) = 60V$   $I_D = 43A (V_{GS} = \pm 20V)$

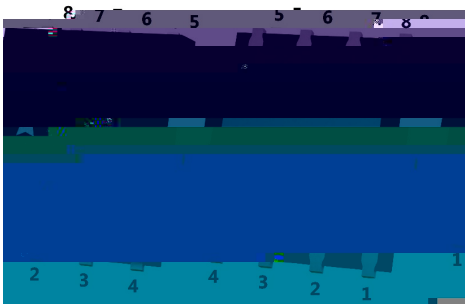
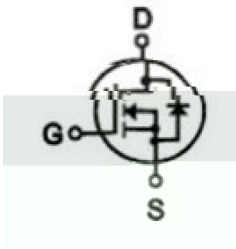
$R_{DS(ON)} @ 10V$  13m (Typ.11.5m )

$R_{DS(ON)} @ 4.5V$  18m (Typ.15.5m )

HF Product.

### DC-DC

Secondary Side Synchronous Rectification, DC-DC Converter, Motor Control, Load Switching.



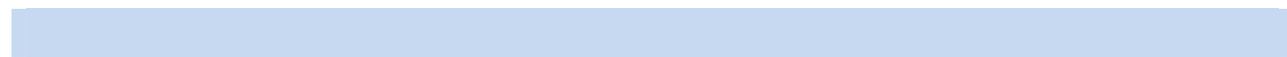
PIN1 2 3 S PIN4 G PIN5 6 7 8 D

Pin	极性
1	S
2	S
3	S
4	G
5	D
6	D
7	
8	

See Marking Instructions.

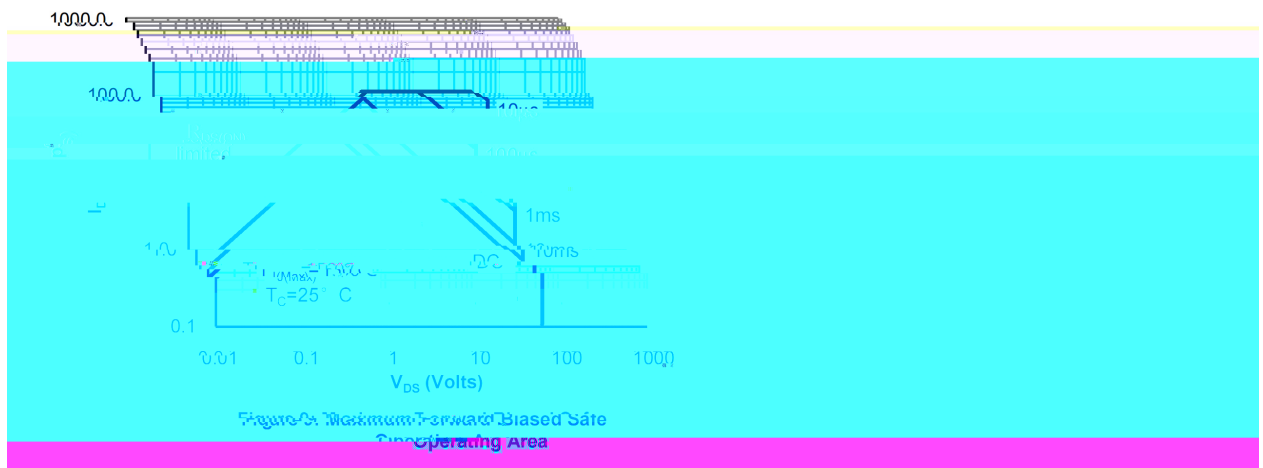
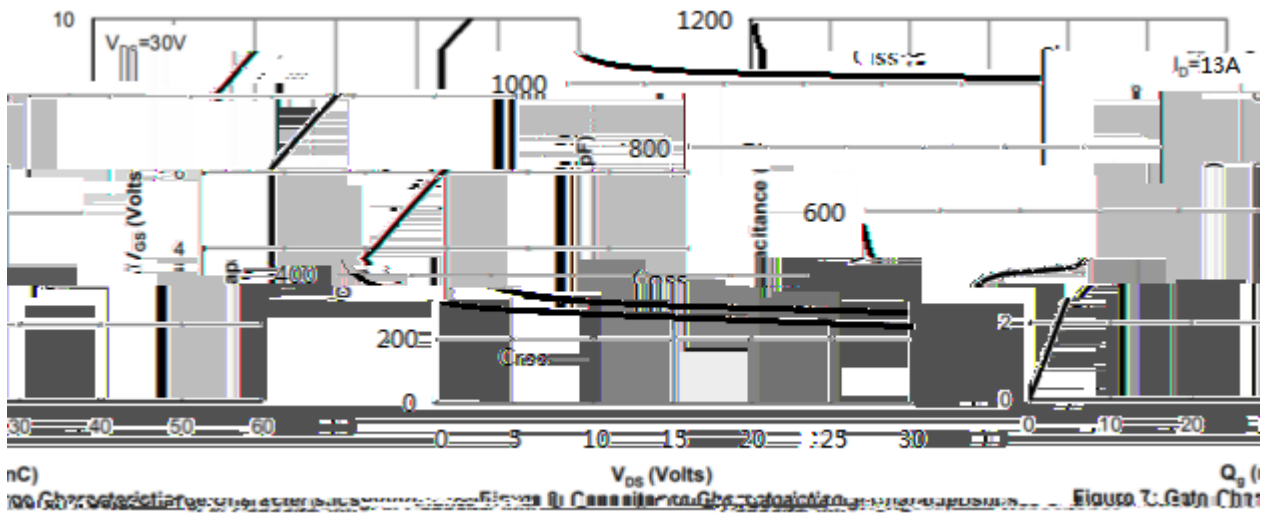
Parameter		Symbol	Rating	Unit
Drain-Source Voltage		$V_{DS}$	60	V
Continuous Drain Current		$I_D$	43	A
Pulsed Drain Current		$I_{DM}$	111	A
Gate-Source Voltage		$V_{GS}$	$\pm 20$	V
Power Dissipation		$P_D(T_c=25^\circ\text{C})$	43	W
Avalanche energy(L=0.5mH)		$E_{AS}$	200	mJ
Avalanche Current(L=0.5mH)		$I_{AS}$	20	A
Junction and Storage Temperature Range		$T_j, T_{stg}$	-55 to 150	
Maximum Junction-to-Ambient	t 10s	$R_{JA}$	25	/ W
	Steady-State		60	
Maximum Junction-to-Case	Steady-State	$R_{JC}$	2.9	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V$ $I_D=250\mu A$	60	64		V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=60V$ $V_{GS}=0V$			1	$\mu A$
Gate-Body Leakage Current Forward	$I_{GSS}$	$V_{GS}=\pm 20V$ $V_{DS}=0V$			$\pm 0.1$	$\mu A$
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	1.0	1.6	2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=20A$		11.5	13	m
		$V_{GS}=4.5V$ $I_D=10A$		15.5	18	m
Drain-Source Diode Forward Voltage	$V_{SD}$	$V_{GS}=0V$ $I_S=1A$			1.2	V
Input Capacitance	$C_{iss}$	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		1010		pF
Output Capacitance	$C_{oss}$			250		
Reverse Transfer Capacitance	$C_{rss}$			280		
Gate resistance	$R_g$	$V_{GS}=0V$ $V_{DS}=0V$ $f=1MHz$		2.3		
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10V$ $V_{DS}=30V$ $I_D=13A$		13.5		nC
Total Gate Charge	$Q_{g(4.5V)}$			6.5		
Gate Source Charge	$Q_{gs}$			2.5		
Gate Drain Charge	$Q_{gd}$			3.0		



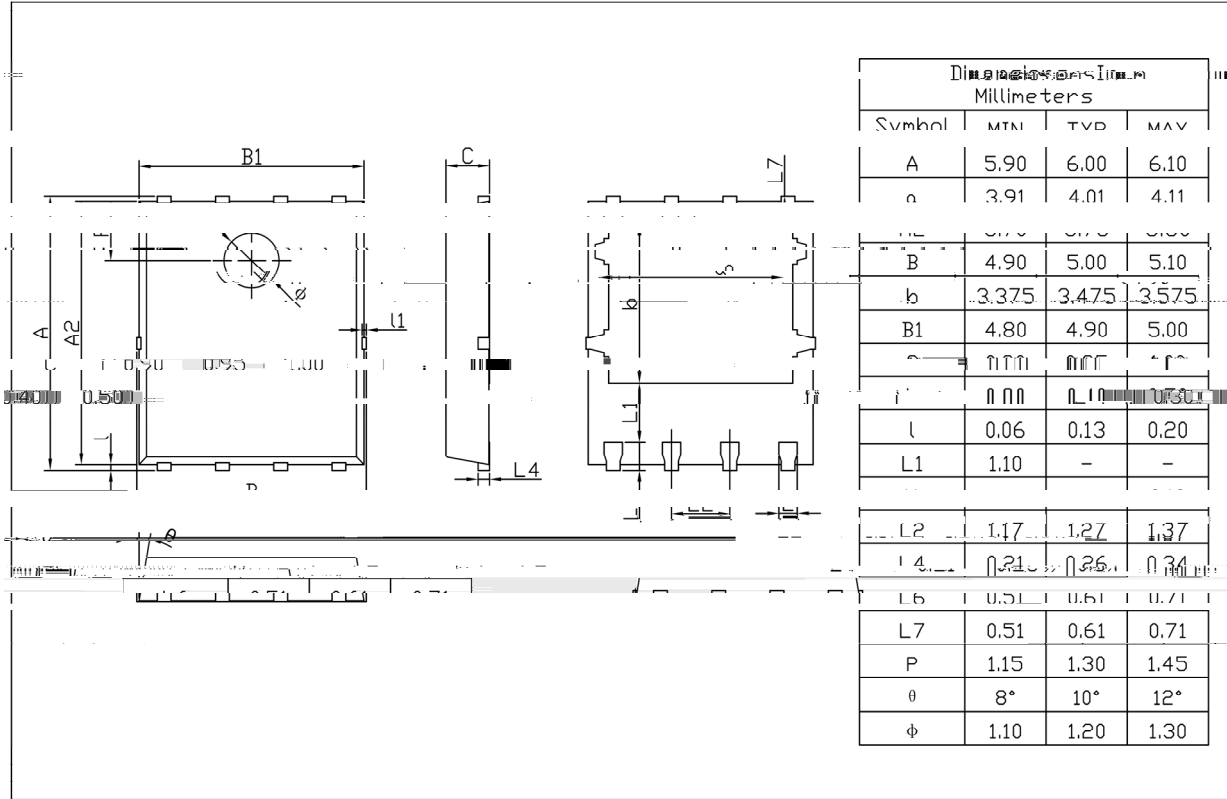
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=30V$ $R_L=2.3$ $R_{GEN}=3$		5		ns
Turn-On Rise Time	$t_r$			3		
Turn-Off Delay Time	$t_{d(off)}$			19		
Turn-Off Fall Time	$t_f$			3		





PDFN5 X6

Unit:mm



Rev.01 202209



BR

120N06S

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Note

BR

Company Code

120N06S

Product Type Code

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Lot No. Code, code change with Lot No

### Temperature Profile for IR Reflow Soldering(Pb-Free)


**Note:**

- |   |           |             |   |
|---|-----------|-------------|---|
| 1 | 150 ~ 180 | 60 ~ 90sec; | 1.Preheating:150~180 , Time:60~90sec.   |
| 2 | 245±5     | 5±0.5sec;   | 2.Peak Temp.:245±5 , Duration:5±0.5sec. |
| 3 | 2 ~ 10    | /sec.       | 3. Cooling Speed: 2~10 /sec.            |

605±5 5